

REMARKS

The present amendments are in response to the Office Action mailed on April 8, 2003 and the Office Action informing the Applicants of a non-compliant amendment mailed on October 21, 2003. The Applicants have added new claims 20-24. Also, claims 1, 2, 10, and 15 have been amended. Thus, claims 1-245 are currently pending.

Reconsideration of the application is respectfully requested in view of the above amendments to the claims, the addition of the new claims, and the following responsive remarks. For the Examiner's convenience and reference, the Applicants' remarks are presented in the order in which the corresponding issues were raised in the Office Action.

In the Office Action, the following rejections were made:

- (1) claims 1, 2, and 10 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite;
- (2) claims 1-19 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 5,883,157 (Yamashita); and
- (3) claims 1-19 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 6,379,443 (Komatsu).

Rejections Under 35 U.S.C. 112, Second Paragraph

The Examiner has rejected claims 1, 2, and 10 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicants regard as the invention. As a broadening amendment, the term "effective amount" has been removed from claims 1, 2, and 10. Withdrawal of this rejection is respectfully requested.

Rejections Under 35 U.S.C. 103(a)

Before discussing the obviousness rejections herein, it is thought proper to briefly state the requirement for sustaining such rejections. The issue under § 103 is whether the PTO has stated a case of *prima facie* obviousness. According to the MPEP § 2142, the Examiner has the burden and must establish a case of *prima facie* obviousness by showing some motivation in a prior art reference to modify that reference to teach all the claim limitations in the instant application. The Applicants respectfully assert the Examiner has not satisfied the requirement for establishing a case of *prima facie* obviousness in these rejections.

The Examiner has rejected claims 1-19 under U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 5,883,157 (Yamashita). Also, the Examiner has rejected claims 1-19 under U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 6,379,443 (Komatsu). Both references cited by the Examiner disclose ink compositions containing water, a colorant, a surfactant, and a water-soluble organic solvent, wherein each reference includes aprotic solvents within the laundry lists of water-soluble inorganic solvents. Since the Examiner has stated the same reasons for the rejections to all of the claims under each of these prior

art references, the Applicants will provide remarks with respect to both references together.

The Applicants have amended independent claims 1 and 17, from which the other claims depend, to clarify that the composition is configured to be ink-jetted on offset media to form an image without substantial coalescence. The amendments to the claims are supported by the specification, which identifies that the ink composition provides excellent print quality on offset media through bleed control without significant halo effects and/or no significant coalescence (page 8, line. 21 through page 9, line 8). Thus, a compositional limitation as to how the ink interacts with offset media is now included in the claim language.

The instant claimed invention identifies a problem to be solved with respect to ink-jet printing on offset media with aqueous ink formulations, while also providing excellent print quality through bleed control by having insignificant halo effects and/or insignificant coalescence. Both Yamashita and Komatsu fail to recognize this. This problem is solved by a formulation that includes an ink colorant, a surfactant, and an aprotic solvent with molecular weights from 40-1500, where the formulation is configured to be ink-jetted on offset media to form an image without substantial coalescence. That is, when printing on offset media, coalescence is from nonexistent to minimal enough such that the ink does not noticeably bleed or become collected undesirably. Further this is done while not disturbing the clarity or crispness of the image, thereby providing excellent print quality. None of these problems and/or solutions are even addressed by Yamashita or Komatsu.

Yamashita teaches an aqueous ink-jet ink composition including a coloring material, a water-soluble organic solvent (abstract and col. 2, ln. 4-5), a surfactant (col. 3, ln. 53 through col. 4, ln. 38), and aprotic solvents (col. 6, ln. 44-60). The reference also indicates that the ink composition is required to be configured to have a foaming surface viscosity of 0.1 to 1.0 g/s (col. 18, ln. 63-64), and the ink is further configured to be printed on "typical plain paper" as exemplified by Fuji-Xerox FX-L paper (col. 9, ln. 47-49; col. 10, ln. 22-23; and col. 15, ln. 61-62). However, Yamashita does not teach that the ink can be configured to be ink-jetted on offset media with positive results. Further, the ink of Yamashita that is configured for application to "typical plain paper" would not necessarily have the requisite properties of the instant claimed invention, especially when the Yamashita composition is formulated to have a specific foaming surface viscosity, which could render the ink inoperable on offset media. Also, Yamashita does not teach any ink composition that would provide excellent print quality on offset media through bleed control by having insignificant halo effects and/or insignificant coalescence.

Komatsu teaches of an aqueous ink-jet ink composition including a coloring material, a water-soluble organic solvent (col. 2, ln. 1-2), a surfactant (col. 4, ln. 4-5 and col. 9, ln. 33-60), and aprotic solvents (col. 8, ln. 32+). The reference also indicates that the ink compositions are required to be configured for printing on "plain paper" (abstract and col. 1, ln. 59 and col. 15, ln. 8). Komatsu does not teach that the ink is configured for ink-jet printing on offset media. Additionally, Komatsu does not teach that any of its ink compositions

would provide excellent print quality on offset media through bleed control by having insignificant halo effects and/or insignificant coalescence.

As a result, the Applicants respectfully assert Yamashita and/or Komatsu alone, or even in combination, lack elements of the claim limitations currently before the Examiner. Specifically, neither Yamashita nor Komatsu teach aqueous ink-jet inks configured for printing on offset media, or teach the requirement of the ink being configured to form an image on offset media without substantial coalescence. Accordingly, a case of *prima facie* obviousness is not present. Thus, the Applicants respectfully request withdrawal of these rejections.

In addition to the Applicant's assertion that a *prima facie* case of obviousness is not present, the Applicants also object to the Examiner's modification of either Yamashita or Komatsu, as the teachings therein are devoid of any indication of an aqueous ink-jet ink being configured for printing on offset media, or an ink-jet ink configured to form an image on offset media without substantial coalescence. The Courts have stated that the prior art reference itself must teach or suggest the making of modifications thereof in order to render a claimed invention obvious. *In re Gordon*, 221 USPQ 1125, 1127 (Fed. Cir. 1984). In other words, one must be motivated by the prior art reference to make the modifications necessary to arrive at the instant invention. *In re Vaeck*, 947 F.2d 488, 493 (Fed. Cir. 1991). Absent such motivation, a rejection based on a modification to a reference is unsupported, and any rejection based on such a modification must be withdrawn.

The Applicants respectfully assert that the teachings of either Yamashita or Komatsu do not address the problems solved by the instant invention. Also,

the Applicants respectfully assert the formulation of Yamashita is a distinct composition configured to have the physical parameters of specific surface foaming viscosities, which could interact with offset media in a manner that has an unfavorable effect, thereby not functioning similarly as the instant claimed invention. In addition, the Applicants respectfully assert the ink of Komatsu is distinct and requires the presence of a hydrophilic copolymer of ethyleneoxy groups and propyleneoxy groups, which may not interact favorably with the typical hydrophobic coatings of offset media, thereby not functioning similarly as the claimed invention. The instant claims are drawn to the use of aqueous ink-jet inks that have been specifically configured for printing on offset media. Thus, even if some of the compositional ingredients of the claimed invention are described amongst lists in the prior art, if the ink as a whole is not formulated to provide an image without substantial coalescence on offset media, the ink is outside of the scope of the claim. Thus, there is nothing in either Yamashita or Komatsu to guide one of ordinary skill in the art to formulate an aqueous ink-jet ink for the purpose of ink-jet printing on offset media to form an image without substantial coalescence.

In addition to the fact that there is no motivation to modify either of the prior art references cited, the Applicants assert that the Examiner cannot maintain the present rejection in light of the amendments present herein. To do so would be to engage in impermissible hindsight analysis. The Courts have stated that the Applicant's specification cannot be the basis for motivation, i.e., no hindsight reconstruction. *Yamanouchi Pharmaceutical Co., Ltd. v. Danbury Pharmacal, Inc.*, 231 F.3d 1339, 56 U.S.P.Q.2d 1641 (Fed. Cir.), reh'g denied,

2000 U.S. App. LEXIS 34047 (2000). Accordingly, the use of Applicants' specification to provide the teaching for using an aqueous ink-jet ink configured for printing on offset media, and including the requirement of the ink being configured to form an image thereon without substantial coalescence, is not permissible and any rejection based on hindsight cannot stand.

To illustrate that it would require the use of hindsight analysis to maintain the present rejections, the Applicants assert that one of ordinary skill in the art would be required to follow a three-tiered modification scheme to address the problem of ink-jetting an aqueous ink composition onto offset media, which enables the formation of an image without substantial coalescence. First, the skilled artisan would have to review either of the prior art references and specifically select aprotic polar solvents from the laundry lists of water-soluble organic solvents (that includes multiple types of solvents) to be used for formulating an ink-jet ink composition with specific characteristics, e.g., dimethyl sulfoxide, sulfolane etc. Second, the skilled artisan would have to select a specific type media to be used for ink-jet printing that is not even mentioned in the prior art references cited, e.g., offset media. Third, the skilled artisan would have to configure the ink-jet ink composition as a whole for ink-jet printing on offset media to perform at an acceptable degree to enable the printing of an image with excellent print quality, e.g., including no substantial coalescence. There is nothing in either Yamashita or Komatsu to guide one of ordinary skill in the art to follow any aspect of this three-tiered modification scheme. Further, the skilled artisan would have to follow this three-tiered modification scheme for the purpose of solving problems not addressed, and by means not addressed in

either of the prior art references. As both Yamashita and Komatsu are devoid of these teachings, this proposed modification scheme would not be obvious and would require hindsight analysis to connect the dots, including missing dots. Thus, the Examiner is respectfully requested to reconsider and withdraw these rejections.


Additionally, the Applicants have added new claims 21-25, which are supported by the specification and claims as originally filed. See page 8, line 19 through page 9, line 8; page 15, line 10 through page 19, line 9; and claims 1, 2, 5, 6, 7, 13, 14, 15, and 17. No new matter is added by the inclusion of the new claims. As these claims are drawn toward a system that includes offset media as an element of the claim, Yamashita and Komatsu are believed to be irrelevant. Consideration of these claims is respectfully requested.

In view of the foregoing, the Applicants believe that all claims present allowable subject matter and the withdrawal of all rejections is respectfully requested. If any impediment to the allowance of these claims remains after consideration of the above remarks, and such impediment could be removed during a telephone interview, the Examiner is invited to telephone Brad Haymond (Registration No. 35,186) at (541) 715-0159, so that such issues may be resolved as expeditiously as possible.

Please charge any additional fees except for Issue Fee or credit any
overpayment to Deposit Account No. 08-2025.

Dated this 18th day of Nov., 2003.

Respectfully submitted,



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